CALIFORNIA DIVISION OF MINES AND GEOLOGY

Fault Evaluation Report FER-59

October 3, 1977

1. Name of fault: Holser fault

2. Location of fault: Piru, Val Verde, and Newhall 7.5 minute quadrangles (see figure 1), Los Angeles and Ventura Counties.

3. Reason for evaluation: Part of a 10-year program.

4. List of references:

a) Dibblee, T.W., Jr., 1959 (?), Geologic map of the Santa Susana 15' quadrangle: U.S. Geological Survey, unpublished data, 1:62,500.

b) Jennings, C.W., 1975, Fault map of California with locations of volcanoes, thermal springs and thermal wells: California Division of Mines and Geology, California Geologic Data Map Series, Map no. 1, scale 1:750,000.

c) Robinson, B.B., 1956, Geology of the Holser Canyon area, Ventura County, California: Unpublished M.A. thesis, University of California, Los Angeles, map scale 1:12,000.

d) Smith, T.C., 1977, San Cayetano fault: California Division of Mines and Geology, Fault Evaluation Report FER-19, unpublished report in A-P file.

e) Weber, F.H., Jr., Kiessling, E.W., Sprotte, E.C., Johnson, J.A., Sherburne, R.W., and Cleveland, G.B., 1975, Seismic hazards study of Ventura County, California: California Division of Mines and Geology, Open File Report 76-5LA, 396 p., map scale 1:48,000.

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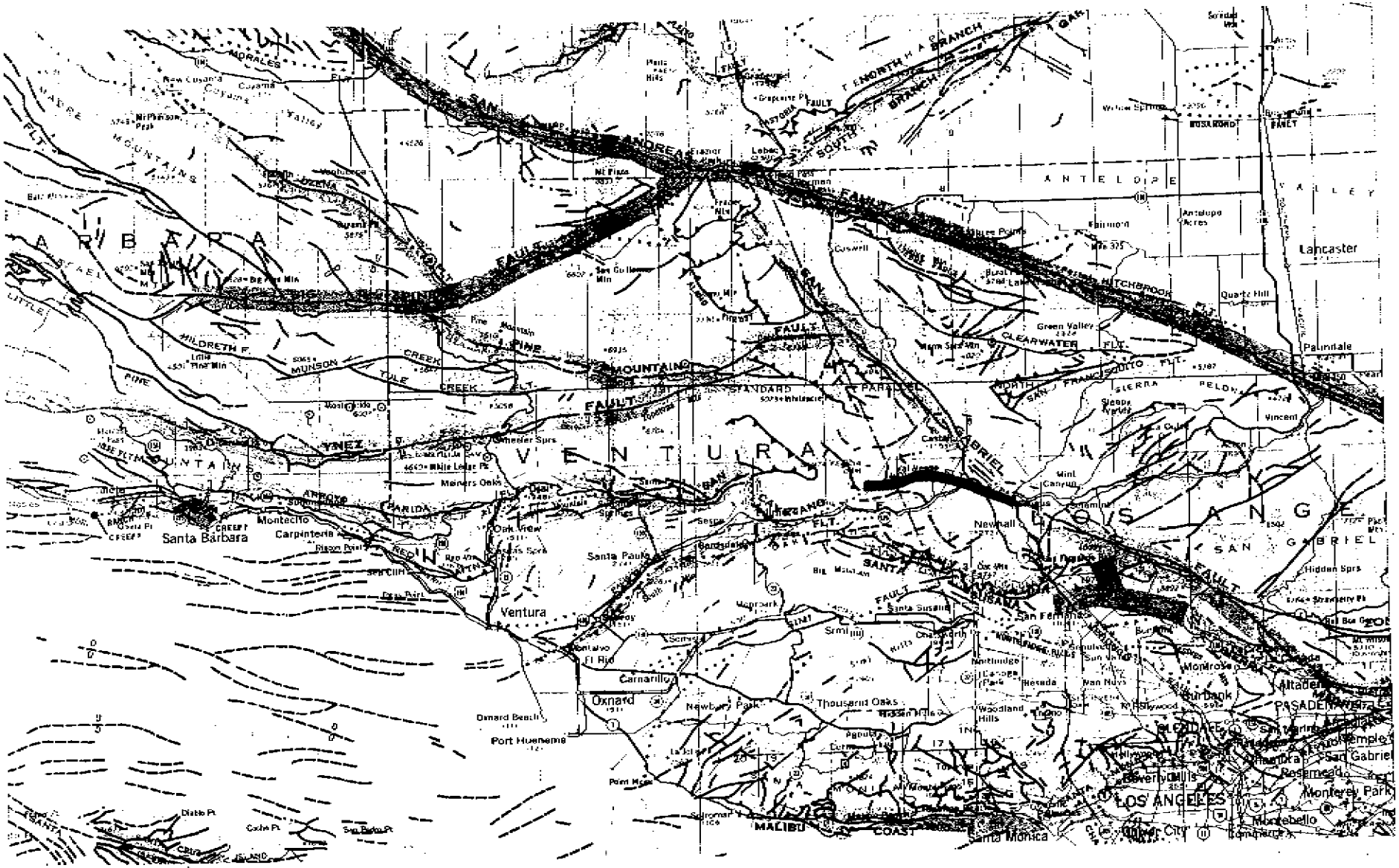
FIGURE 1. General location of the Holser fault (Jennings, 1975, scale 1:750,000).



f) Winterer, E.L., and Durham, D.L., 1962, Geology of southeastern Ventura Basin, Los Angeles County, California: U.S. Geological Survey Professional Paper 334-H, scale 1:24,000.

g) Ziony, J.I., Wentworth, C.M., Buchanan-Banks, J.M., and Wagner, H.C., 1974, Preliminary map showing recency of faulting in coastal southern California: U.S. Geological Survey, Miscellaneous Field Studies Map MF-585, 15 p., map scale 1:250,000, 3 sheets.

5. Summary of vailable data:

Winterer and Durham (1962, p. 336) describe the Holser fault as a south-dipping thrust fault, which has been sharply folded. They cite the existence of at least one tear fault (see plate 1). Robinson (1956) calculated the dip of the fault, using oil well data, as 65° south, and calculated the apparent vertical separation at about 5000 feet. He noted that neither the Holser nor any related faults were exposed in his field area (even though he shows the fault on his map) because of the rather extensive landslides present in the area. Robinson stated that the Holser may have a left-lateral component of displacement.

Robinson concluded that the Holser fault truncates the San Cayetano fault to the west, a fault with evidence of probable late Quaternary movement. Weber, et al. (1975, p. 176) felt that the Holser is, in a sense, a continuation of the San Cayetano fault even though the senses of movement on the two faults are opposite.

Finally, when one examines the various maps in detail one can conclude that the fault has moved during the Plio-Pleistocene since the fault cuts the Saugus Formation (Dibblee, 1959 (?); and Winterer and

Durham, 1962). Winterer and Durham (1962) also depict the Holser as buried under late Quaternary terrace deposits near where the Holser is truncated ~~[of the fault]~~ by the San Gabriel fault. It is the displacement of the Saugus Formation that caused Jennings (1975) to show the fault in orange (Quaternary) and Ziony, et al. (1974) to depict the fault as a late Pliocene or younger fault (Ziony, et al. do not note the apparent concealment of the fault by the terrace deposits).

6. Interpretation of air photos: Not attempted.

7. Field observations: Not attempted.

8. Conclusions:

The Holser fault has moved during the Plio-Pleistocene; however, there is no known data that would support assigning this fault a Holocene age. Indeed, it would appear that the fault is pre-Holocene in age since late Quaternary terrace deposits are apprrently not cut by the fault. Therefore, the fault does not meet the requirement of being sufficiently active. Further, the zoning of the fault may not be well-defined, at least in some areas (Robinson, 1956; see also item 5).

9. Recommendations:

Based on the present project guidelines and the data summarized herein, zoning of the Holser fault is not recommended at this time. No further work appears necessary on this fault ~~on~~ as a part of this project.

10. Investigating geologist's name; date:

Theodore C. Smith

THEODORE C. SMITH
Assistant Geologist
October 3, 1977

I agree with recommendations
EHH
10/13/77